Sample Exercise Year 2000 Emergency Preparedness Exercise

A. Purpose and Background

It has been recognized throughout the business and health care industry that the Year 2000 problem poses a significant threat to information management systems, medical equipment and devices, and various other facility operating systems. To mitigate the potential consequences of Year 2000 issues, medical facilities have implemented procedures to identify those items that are time sensitive and that have an internal clock, e.g., utility systems, computers, medical equipment, telecommunications equipment, etc. As items are identified, corrective measures are taken to ensure Year 2000 compliance. While these efforts reflect a proactive approach to mitigating the possible consequences of Year 2000, we cannot assume 100% compatibility. Nor can we assume adequate preparation and 100% compatibility from critical services and organizations that are outside of our control, such as utilities, communication networks, etc. Therefore, it is within the scope of emergency management to assist in the planning and preparation for potential consequences for Year 2000 failures. This exercise is intended to highlight both "facility-based" and Community-based response and recovery activity following a major Year 2000 failure. The exercise is timely in its support of current facility and Community Year 2000 planning.

The exercise will also provide an opportunity for your hospital to implement and evaluate various components of the facility emergency preparedness plan. Identified facility shortfalls will trigger the implementation of the Emergency Management Plan in support of the facility's emergency response and recovery efforts.

B. Scope and Concept

The scope of the exercise brings a multifaceted, multidimensional response into focus. To minimize the interruption of patient care activities, a combination of "real-time" and "functional" response activities will be implemented. Individual services will determine an appropriate level of participation and implementation or their various disaster plans. The exercise will focus on the following areas:

1. Utility restoration/repair and associated interim sustainment capabilities.
2. Patient evacuation and transfer capabilities.
3. Critical biomedical equipment failure response procedures.
4. Operational capabilities of clinical and administrative support services.
5. Instituting temporary measures to bring up the network in patient care areas.
6. Command Center coordination and incident management.

Driven by the response efforts at the Command Center in your health care facility, the Community will activate components of its Emergency Management Plan. The Community Emergency Operations Center (EOC) will receive various requests for assistance from your area's health care facility Command Center. The Community EOC will disseminate the emergency assistance request to the Community medical facilities and determine appropriate

resource tasking. The Community EOC will, in turn, notify your health care facility Command Center. Potential requests for assistance may involve coordination of patient transfer activity and transportation assets, identification of supplies/equipment/personnel to fill shortfalls, emergency purchase or contracting assistance.

Utilizing simulated patients, one division should implement patient reception and admission procedures. To complete the emergency notification process, someone will be contacted and briefed on the response activity being simulated within the Community. A situation/status report will be drafted.

If one of the two emergency generators fail resulting in a partial utility failure, a management team will determine if the facility cannot manage the increased patient load due to the diminished utility status. Transferring patients will be temporarily accepted and transferred to a community medical facility.

C. Exercise Objectives

The multifaceted framework of the exercise provides an opportunity to evaluate a variety of organizational emergency response procedures. The following objectives have been developed.

Internal Operations

1. Implement/evaluate the health care facility response to total electrical power failure.
2. Evaluate utility failure response procedures.
3. Evaluate critical biomedical equipment failure response procedures.
4. Evaluate operational capabilities of clinical and administrative support services/areas.
5. Evaluate the Command Center coordination and incident management during critical utility failure requiring patient evacuation.
6. Activation of the Community Emergency Activation and Notification Procedures.
7. Increase the awareness of possible Year 2000 problems that could occur at this health care facility.

External Operations

1. Implement/evaluate Community emergency activation and notification procedures.
2. Activate appropriate Community Emergency Operations Center activities.
3. Evaluate Community-level mechanisms to support health care facility evacuation, e.g., determining bed availability at other Community facilities, assisting in coordination of transportation, etc.
4. Evaluate Community-level mechanisms to support emergency facility operations, e.g., assistance with emergency purchase/contracts, temporary deployment of support staff from other facilities, etc.
5. Identify and evaluate internal processes required to quickly identify emergency resources (personnel, supplies, equipment) capable of being delivered or deployed to another facility within the Community.
6. Evaluate communication procedures between the facility and the Community Emergency Operations Center.

Awareness/ Public Affairs Officer

1. Provide Community staff training in Emergency Management Plan roles and responsibilities.
2. Utilize the overall exercise process and lessons learned in support of ongoing Community-wide Year 2000 mitigation and consequence management planning.

VISN Level

1. Evaluate ability to transfer patients without causing undue hardship to patients and relatives.
2. Evaluate ability to continue patient care during partial utility failure, e.g., one of two emergency generators failing.
3. Evaluate ability to provide resources necessary to accept, care for, transfer and track incoming patients.

D. Planning Assumptions and Simulations

The following assumptions and simulations are applicable during the exercise:

1. Exercise participants will be briefed in their particular roles and responsibilities prior to the exercise. The primary focus of the exercise is staff training and familiarization with emergency plans, procedures, policies, etc.

2. Implementation of emergency response plans, policies and procedures during the exercise will depict actions that would be expected to occur under actual response conditions. In some circumstances, activity will be simulated or functionally implemented.

3. The exercise will be played in as close to real-time sequencing as possible. Some response actions may be accelerated to allow necessary response activity or decision-making during the allotted exercise time period.

4. Although the exercise is taking place on a weekday during administrative hours, activity will be based upon a response taking place on Saturday, January 1, 2000 at 00:01 a.m. Personnel available for response have been recalled and are present for duty.

5. Data and decision-making processes involving patient care services, such as in-house triage and discharge/transfer decisions, will utilize the actual patient census and acuity on Thursday, January 7, 1999.

6. Functional implementation of biomedical equipment failure procedures will be limited to the Intensive Care and Telemetry Units.

7. It is understood that the Year 2000 scenario may also impact communication systems. For exercise purposes, the assumption is made that telephone systems have remained fully operational. Electronic mail systems and facsimile services, however, have been interrupted.

8. While maintaining a safe work environment, areas participating in the exercise will turn off all electrical devices, such as lights, computers, etc., to simulate power failure and system compromises.

E. Scenario

It is Saturday, January 1, 2000 at 00:01 a.m. and a major utility failure leads to a wide spread electrical power grid outage in your area. It is believed that the utility company has suffered a Year 2000 compatibility error in its computer systems. The power failure would trigger the health care facility emergency generators; however, a "chip failure" in the generator's gear switch also occurs. The net result is a total electrical power failure throughout the facility. Since the hubs on the computer network were not an emergency the clinical workstations throughout the facility are nonfunctional. Additionally, the patient monitoring system has failed due to a perceived Year 2000-related bug in an embedded chip.

A wide section of the community has also been impacted by the power outage; therefore local support is limited and/or significantly delayed. Community nursing homes and residential care facilities in the affected area have also been impacted. Their emergency plans include the transfer of patients and residents to area hospitals. Temperatures are hovering near zero degree; there are scattered snow flurries.

F. Exercise Response and Support Activity

The following activity descriptions provide a general overview of projected events to take place during the exercise. Although the events are listed separately, many activities will be taking place simultaneously.

1. Facility Total Power Failure

Health Care Facility Level

a) Through an injected exercise message, the Facilities staff will be informed of the total facility power failure. Participating services will be contacted and informed of the power failure.
b) Facilities staff will functionally implement electrical power failure procedures. Staff will allow an appropriate amount of time to determine the cause of the failure.
c) Participating service personnel will functionally implement their utility failure plans. Services will determine (estimate) the impact on their operational capability and identify resource shortfalls. Services will report information to the Command Center.
d) Once it's determined that the generator switchgear has failed, Facilities staff will contact the switch gear vendor (actual or simulated) to determine repair/replacement options.
e) Based upon the estimated repair time, the Facilities staff will estimate when the health care facility can expect to have electrical power restored and when it can resume full operations.
f) Facilities staff will also determine interim measures to sustain/maintain any operational service at the health care facility. This might include emergency contract or purchase of portable generators, heating and lighting equipment, etc. Determining what level of operation to maintain should be coordinated with the Command Center.
g) Identified shortfalls will be reported to appropriate levels within the facility response effort.
h) Based upon identified shortfalls, the Command Center will determine if additional requirements can be met locally or if Community assistance is necessary.

Community Level EOC

a) Based upon identified health care facility shortfalls, staff will contact the other Network facilities to identify availability of equipment capable of being sent to your facility.
b) Staff will assist in Identifying means of delivery and estimated time of arrival.
c) Staff will notify your health care facility Command Center of available resources. As requested, staff may facilitate (by simulation) assistance with emergency contracts and purchase orders.

Other Facilities

a) Based upon information from the Command Center, facilities will identify availability of requested resources, estimated time and means of delivery.
b) Information will be reported to the Network EOC.

2. Equipment and *VISTA* Failure

Health Care Facility Level

a) Through an injected exercise message the ICU and telemetry staff will be informed of the total facility power failure.
b) An exercise controller will turn off lights and other electrical items that will not interfere with patient care activity. Computer screens may be covered to represent power failure.
c) Staff will identify critical biomedical equipment failures (ICU monitors) and implement emergency backup procedures. Additional staff will be called to the ICUs to assist with the observation of patients.
d) Additional staff, such as respiratory therapists, will report to the ICU and telemetry areas to support critical patient care needs.
e) Identified shortfalls will be reported to appropriate levels within the facility response effort. Although this element of the exercise is limited to the Intensive Care and Telemetry Units, identifying emergency backup equipment should reflect total facility requirements and potential shortfalls.
f) Based upon identified shortfalls, the Command Center will determine if additional requirements can be met locally or if Community assistance is necessary.

Community Level EOC

a) Based upon identified health care facility equipment shortfalls, staff will contact the other Community facilities to identify available equipment capable of being sent to your facility.
b) Staff will also assist in identifying means of delivery and estimated time of arrival.
c) Staff will notify your health care facility Command Center of available resources
d) Based upon information from the Community EOC, facilities will identify availability of requested resources, estimated time and means of delivery.
e) Information will be reported to the Community EOC.

3. Patient Evacuation

Health Care Facility Level

The impact of the total facility power failure prompts the decision for patient evacuation. The extensive power outage within the community and the associated impact on other medical facilities has severely limited the possibility of local transfers. Transfer to other Network facilities is required.

a) Utilizing the current patient census and acuity, the medical staff will determine which patients can be discharged and which patients must be transferred to another medical facility. Due to the power failure, computer and other automated data systems cannot be used.
b) Administrative and clinical staff will functionally implement, or simulate, procedures associated with patient evacuation, e.g., medical record information, accompanying medications, transportation requirements, etc.
c) Based upon bed availability information provided by the Network EOC, patients will be assigned an accepting facility and appropriate transportation determined.
d) Patient transfer information (number and clinical category, e.g., medical, surgical) will be communicated to the assigned facility. Additional patient information, such as simulated name, diagnosis, etc.) will be communicated to your division to facilitate patient reception activity.
e) Identified shortfalls will be reported to appropriate levels within the facility response effort.
f) Based upon identified shortfalls, the Command Center will determine if additional requirements can be met locally, or if Network assistance is necessary.

Community Level EOC

a) Based upon information from your health care facility, the Network EOC will contact the other Network medical facilities to determine bed availability, ability and time required to accept patients transferred from your facility, and assess capability to assist in coordinating transportation.
b) Information will be coordinated with your health care facility Command Center.

Other Facilities

a) Based upon information from the Community Level EOC, facilities will determine their capability to accept transfer patients from your facility. Availability of local contract ambulance services to support transportation requirements may also be requested.
b) Information will be reported to the Network EOC.

G. Procedures to manage, record and track drill results

Health Care Facility Level

a) Participating services will report their operational status and identified resource shortfalls to the Command Center. The Command Center will determine the overall operational status of the health care facility and any necessary adjustments in services.
b) Command Center personnel should also consider what temporary measures might be implemented until the facility is capable of resuming full operations.

c) Discussion should also address what measures need to be taken prior to accepting patients once power is restored.
d) Drafting a public information release should be considered.
e) Identified shortfalls or need for assistance will be coordinated and with the Network EOC. Your County Emergency Management Coordinator will participate in Command Center activity to assist in identifying local emergency resources.
f) Command Center staff will maintain appropriate documentation of response activity, communication and coordination with the Network EOC, etc. A draft status report will be completed based upon exercise input from the participating services.

Community Level EOC

a) The Network EOC will maintain necessary communication and coordination efforts with the your health care facility Command Center.
b) Network staff will maintain situation/status reports as information is made available from the main facility.
c) The Emergency Management Strategic Healthcare Group (EMSHG), Operations Section will be provided an initial situation and status report.

Exercise Evaluation

Exercise participants and observers will have an opportunity to provide written input into the overall exercise evaluation and lessons learned process. The evaluation should reflect feedback on the exercise process, identified strengths and weaknesses of existing emergency management plans, and recommendations for improvement. The feedback process will also provide an opportunity to identify areas related to ongoing Year 2000 mitigation and consequence management planning. The Network Area Emergency Manager will facilitate the development of an exercise evaluation questionnaire.

The exercise evaluation will also consist of a Networkwide videoconference linking each facility and the Network Office. The evaluation will address all aspects of the exercise as well as its application to further Year 2000 planning. The Network Area Emergency Manager will moderate the evaluation discussion. Topics of discussion will include:

1) overview of your health care facility exercise activity,
2) overview of Network EOC activity,
3) input and comments from the other medical facilities,
4) discussion of lessons learned, and
5) discussion and application to current Year 2000 planning.